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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,206	04/16/2004	Sung-Su Jung	8734.295.00 US	7672
30827 7590 07/03/2007 MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON, DC 20006			EXAMINER TADESSE, YEWEDAR T	
			ART UNIT 1734	PAPER NUMBER
			MAIL DATE 07/03/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/825,206	<b>Applicant(s)</b> JUNG ET AL.	
	<b>Examiner</b> Yewebdar T. Tadesse	<b>Art Unit</b> 1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 April 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 14 and 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-27 and 29-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>04/11/07</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) The invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-12 and 15-26 are rejected under 35 U.S.C. 102(a) as being anticipated by JP 2002-258299.

Regarding claim 1, JP'299 discloses (see Fig 1 and English translation Detailed Description) a dispenser for fabricating a liquid crystal display panel, comprising: at least one dispensing unit (8) to supply a dispensing material on a substrate; at least one support member (9) to support and align the dispensing unit; and a plurality of syringes (10) mounted on each of the dispensing unit.

As to claim 2, in JP'299 the substrate is capable of having a plurality of thin film transistor arrays defined on the substrate, each thin film transistor array corresponding to a respective one image display portion of a plurality of image display portions defined on the substrate.

Regarding claim 3, in JP'299 the substrate is capable of having a plurality of color filter arrays defined on the substrate, each color filter array corresponding to a respective one image display portion of a plurality of image display portions defined on the substrate.

As to claims 4-6, in JP'299 the dispensing material includes sealant for forming a seal pattern, wherein the seal pattern defines an opening at one portion, or a closed pattern encompassing the image display portion.

With respect to claims 7-8, in JP'299 the dispensing material includes liquid crystal material or capable of including silver.

As to claim 9, JP'299 discloses (see paragraphs 7-8, 24) a gap controller to control a gap between the substrate and the syringes.

With respect to claims 10-11, In JP'299 the image display portions are disposed as an array of image display portions on the substrate, and wherein the number of the syringes (10) provided on each one of the dispensing units are corresponding to the number of image display portions formed in a row of the array of image display portions.

With respect to claim 12, in JP'299 each one of the plurality of syringes (10) provided on each one of the dispensing units are movable in at least one direction of the dispensing unit (see paragraph 39).

As to claim 15, JP'299 discloses (see Fig 1) a dispenser for fabricating a liquid crystal display panel comprising a plurality of dispensing units (8) to contain a material to be dispensed; a support member (9) to support and position the dispensing units; and a plurality of syringes (10 nozzles) to receive the material to be dispensed from the

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dispensing units and to supply the material to a substrate, at least two of the syringes mounted on each of the dispensing units.

As to claim 16, in JP'299 the substrate is capable of having a plurality of thin film transistor arrays defined on the substrate, each thin film transistor array corresponding to a respective one of a plurality of image display portions defined on the substrate.

Regarding claim 17, in JP'299 the substrate is capable of having a plurality of color filter arrays defined on the substrate, each color filter array corresponding to a respective one of a plurality of image display portions defined on the substrate.

As to claims 18-20, in JP'299 the dispensing material includes sealant for forming a seal pattern, wherein the seal pattern defines an opening at one portion, or a closed pattern encompassing the image display portion.

With respect to claims 21-22, in JP'299 the dispensing material includes liquid crystal material or capable of including silver.

As to claim 23, JP'299 discloses (see paragraphs 7-8 and 24) a gap controller to control a gap between the substrate and the syringes.

With respect to claims 24-25, In JP'299 the image display portions are disposed as an array of image display portions on the substrate, and wherein the number of the syringes (10) provided on each one of the dispensing units corresponds to the number of image display portions formed in a row of the array of image display portions.

With respect to claim 26, in JP'299 each one of the plurality of syringes (10) provided on each one of the dispensing units are movable in at least one direction of the dispensing unit (see paragraph 39).

3. Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Bova et al (US 6,387,330).

Regarding claim 1, Bova et al discloses (see Fig 1) a dispenser capable of fabricating a liquid crystal display panel, comprising: at least one dispensing unit (1) to supply a dispensing material on a substrate; at least one support member (5) to support and align the dispensing unit; and a plurality of syringes (2) mounted on each of the dispensing unit.

As to claim 2, in et al the substrate is capable of having a plurality of thin film transistor arrays defined on the substrate, each thin film transistor array corresponding to a respective one of a plurality of image display portions defined on the substrate.

Regarding claim 3, in Bova et al the substrate is capable of having a plurality of color filter arrays defined on the substrate, each color filter array corresponding to a respective one of a plurality of image display portions defined on the substrate.

As to claims 4-6, in Bova et al the dispensing material is capable of including sealant for forming a seal pattern, wherein the seal pattern defines an opening at one portion, or a closed pattern encompassing the image display portion.

With respect to claims 7-8, in Bova et al the dispensing material capable of including liquid crystal material or capable of including silver.

As to claim 9, Bova et al discloses a gap controller (items 5, 7) to control a gap between the substrate and the syringes.

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With respect to claims 10-11, In Bova et al the image display portions are capable of being disposed as an array of image display portions on the substrate, and wherein the number of the syringes (2) provided on each one of the dispensing units are capable of corresponding to the number of image display portions formed in a row of the array of image display portions.

With respect to claim 12, in Bova et al each one of the plurality of syringes (2) provided on each one of the dispensing units are movable in at least one direction of the dispensing unit.

Regarding claim 13, in Bova at least one of the pluralities of syringes (2) provided on each one of the dispensing units is capable of being fixed with respect to the dispensing unit and the other ones of the syringes are movable at least in one direction of the dispensing unit.

4. Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Parker et al (US 4,344,768).

As to claim 1, Parker et al discloses (see Figs 4, 8-10) a dispenser capable of fabricating a liquid crystal display panel, comprising: at least one dispensing unit (85, 86, 104) to supply a dispensing material on a substrate; at least one support member (17, 18 arms) to support and align the dispensing unit; and a plurality of syringes (20, 21) mounted on each of the dispensing unit.

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As to claim 2, in Parker et al the substrate is capable of having a plurality of thin film transistor arrays defined on the substrate, each thin film transistor array corresponding to a respective one of a plurality of image display portions defined on the substrate.

Regarding claim 3, in Parker et al the substrate is capable of having a plurality of color filter arrays defined on the substrate, each color filter array corresponding to a respective one of a plurality of image display portions defined on the substrate.

As to claims 4-6, in Parker et al the dispensing material is capable of including sealant for forming a seal pattern, wherein the seal pattern defines an opening at one portion, or a closed pattern encompassing the image display portion.

With respect to claims 7-8, in Parker et al the dispensing material capable of including liquid crystal material or capable of including silver.

As to claim 9, Parker et al discloses (motors) a gap controller to control a gap between the substrate and the syringes.

With respect to claims 10-11, In Parker et al the image display portions are capable of disposed as an array of image display portions on the substrate, and wherein the number of the syringes (20, 21) provided on each one of the dispensing units are capable of corresponding to the number of image display portions formed in a row of the array of image display portions.

With respect to claim 12, in Parker et al each one of the plurality of syringes (20, 21) provided on each one of the dispensing units are movable in at least one direction of the dispensing unit.



5. Claims 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Ingenhoven et al (WO02/40165) (see US 2004/0020942 A1 or US 7,055,723 for English Translation).

With respect to claim 1, Ingenhoven et al discloses (see Fig 5) a dispenser capable of fabricating a liquid crystal display panel, comprising: at least one dispensing unit (channel 24) to supply a dispensing material on a substrate (through channel 11); at least one support member (29) to support and align the dispensing unit; and a plurality of syringes (output channels 12 with needles 30 and tips 6) mounted on each of the dispensing unit.

As to claim 2, in Ingenhoven et al the substrate is capable of having a plurality of thin film transistor arrays defined on the substrate, each thin film transistor array corresponding to a respective one image display portion of a plurality of image display portions defined on the substrate.

Regarding claim 3, in Ingenhoven et al the substrate is capable of having a plurality of color filter arrays defined on the substrate, each color filter array corresponding to a respective one image display portion of a plurality of image display portions defined on the substrate.

Regarding claim 3, in Ingenhoven et al the substrate is capable of having a plurality of color filter arrays defined on the substrate, each color filter array corresponding to a respective one of a plurality of image display portions defined on the substrate.

As to claims 4-6, in Ingenhoven et al the dispensing material is capable of including sealant for forming a seal pattern, wherein the seal pattern defines an opening at one portion, or a closed pattern encompassing the image display portion.

With respect to claims 7-8, in Ingenhoven the dispensing material capable of including liquid crystal material or capable of including silver.

As to claim 9, Ingenhoven et al discloses a gap controller (guiding robotic arm 17) is capable of controlling a gap between the substrate and the syringes.

With respect to claims 10-11, In Ingenhoven et al the image display portions are disposed as an array of image display portions on the substrate, and wherein the number of the syringes (output channels 12 with needles 30 and tips 6) provided on each one of the dispensing units are capable of corresponding to the number of image display portions formed in a row of the array of image display portions.

With respect to claim 12, in Ingenhoven et al each one of the pluralities of syringes (output channels 12 with needles 30 and tips 6) provided on each one of the dispensing units are movable in at least one direction of the dispensing unit.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-13 and 15-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted art (see pages 7-8, paragraphs 19-20) in view of JP-2002-258299.

Admitted art discloses all the claimed elements except a plurality syringes or at least two of syringes mounted on each one of the dispensing units. However, JP'299 teaches a plurality of syringes mounted on a dispensing unit (see Fig 1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a plurality of syringes in the admitted art to facilitate the formation of seal pattern.

9. Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP-2002-258299 (admitted art in view of JP-2002-258299) as applied to claim 1 or 15 above and further in view of Yanagita et al (US 6,540,104).

JP teaches (see paragraph 9) the advantages of a mechanically pushed piston over gas (air) pressurizing extrusion in controlling the dispensed material. It is well known in the art to migrate piston member using air; for instance - Yanagita et al discloses (see Fig 4) a pneumatic driven piston and a cylinder (support) with gas inlets. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include air inlets as an alternative way of piston pushing means as desired.

### ***Response to Arguments***

10. Applicant's arguments filed 04/19/2007 have been fully considered but they are not fully persuasive. In view of the certified English translation document examiner withdraws the rejections of Kojima. Yet, Ingenhoven is still considered to be a prior art because the WO 02/40165 document is published on May 23, 2002. Examiner has used US 2004/0020942 A1 as equivalent document to show full English Translation of WO'165 (see also US patent No. 7,055,723).

Applicants argue that Ingenhoven does not teach or suggest all the feature of the claimed invention. Examiner respectfully disagrees because Ingenhoven meets the claimed invention (re 1-12) as shown above. Examiner withdraws the rejection of claims 15-27 in view of Ingenhoven, per applicants' amendment. However, claims 1-13 and 15-30 are found to be rejectable over the arts cited above including Ingenhoven and applicants' admitted related art.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yewebdar T. Tadesse whose telephone number is (571) 272-1238. The examiner can normally be reached on Monday-Friday 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tucker Phillip can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



YTT